We claim:

1. A chimeric polypeptide comprising a serum albumin protein (SA) having a biologically active heterologous peptide sequence inserted therein.

2. A chimeric polypeptide having the structure A-B-C, wherein:

A represents a first fragment of serum albumin (SA);

B represents a biologically active heterologous peptide sequence; and

C represents a second peptide fragment of SA.

3. A chimeric polypeptide comprising:

a first peptide fragment, comprising an N-terminal fragment of serum albumin (SA) protein;

a second peptide fragment, comprising a biologically active heterologous peptide sequence, and

a third peptide fragment, comprising a C-terminal fragment of SA.

4. The chimeric polypeptide of claim 1, 2, or 3, wherein the heterologous peptide sequence comprises a fragment of an angiogenesis-inhibiting protein or polypeptide.

5. The chimeric polypeptide of claim 4, wherein said angiogenesis-inhibiting protein or polypeptide is selected from the group consisting of angiostatin, endostatin, and peptide fragments thereof.

6. The chimeric polypeptide of claim 1, 2, or 3, wherein the heterologous peptide sequence binds to a cell surface receptor protein.

7. The chimeric polypeptide of claim 6, wherein the receptor protein is a G-protein coupled receptor.

8. The chimeric polypeptide of claim 6, wherein the receptor protein is a tyrosine kinase receptor.

9. The chimeric polypeptide of claim 6, wherein the receptor protein is a cytokine receptor.

10. The chimeric polypeptide of claim 6, wherein the receptor protein is an MIRR receptor.

11. The chimeric polypeptide of claim 6, wherein the receptor protein is an orphan receptor.

12. The chimeric polypeptide of claim 1, 2, or 3, wherein the chimeric polypeptide binds to an extracellular receptor or an ion channel.

13. The chimeric polypeptide of claim 12, wherein the chimeric polypeptide is an agonist of said receptor or ion channel.

14. The chimeric polypeptide of claim 12, wherein the chimeric polypeptide is an antagonist of said receptor or ion channel.

15. The chimeric polypeptide of claim 1, 2, or 3, wherein the chimeric polypeptide induces apoptosis.

16. The chimeric polypeptide of claim 1, 2, or 3, wherein the chimeric polypeptide modulates cell proliferation.

17. The chimeric polypeptide of claim 1, 2, or 3, wherein the chimeric polypeptide modulates differentiation of cell types.

18. The chimeric polypeptide of claim 1, 2, or 3, wherein the heterologous peptide sequence comprises between 4 and 400 residues.

19. The chimeric polypeptide of claim 1, 2, or 3, wherein the heterologous peptide sequence comprises between 4 and 200 residues.

20. The chimeric polypeptide of claim 1, 2, or 3, wherein the heterologous peptide sequence comprises between 4 and 100 residues.

21. The chimeric polypeptide of claim 1, 2, or 3, wherein the heterologous peptide sequence comprises between 4 and 20 residues.

22. The chimeric polypeptide of claim 1, 2, or 3, wherein the tertiary structure of the chimeric polypeptide is similar to the tertiary structure of native SA.

23. The chimeric polypeptide of claim 1, wherein the inserted peptide sequence replaces a portion of native SA sequence.

24. The chimeric polypeptide of claim 23, wherein the inserted peptide sequence and the replaced portion of native SA sequence are of unequal length.

25. The chimeric polypeptide of claim 1, 2, or 3, wherein the half-life of the polypeptide in the blood is no less than 14 days.

26. The chimeric polypeptide of claim 1, 2, or 3, wherein the half-life of the polypeptide in the blood is no less than 10 days.

27. The chimeric polypeptide of claim 1, 2, or 3, wherein in the half-life of the polypeptide in the blood is no less than 50% of the half-life of native SA.

28. A nucleic acid encoding the chimeric polypeptide of claim 1, 2, or 3.

29. A delivery vector comprising the nucleic acid of claim 28.

30. The delivery vector of claim 29, wherein said delivery vector comprises a virus or retrovirus.

31. The delivery vector of claim 30, wherein said virus or retrovirus is selected from the group consisting of adenoviruses, adeno-associated viruses, herpes simplex viruses, human immunodeficiency viruses, or vaccinia viruses.

32. Transfected cells comprising target cells which have been exposed to the delivery vector of claim 29.

33. The transfected cells of claim 32, wherein the cells are selected from the group consisting of blood cells, skeletal muscle cells, stem cells, skin cells, liver cells, secretory gland cells, hematopoietic cells, and marrow cells.

34. A pharmaceutical preparation comprising a pharmaceutically acceptable excipient and the chimeric polypeptide of claim 1, 2, or 3.

35. A method for treating disease in an organism, comprising administering as a pharmaceutical preparation to the organism the chimeric polypeptide of claim 1, 2, or 3.

36. A method for treating disease in an organism, said method comprising:

providing a delivery vector comprising genetic material which encodes the chimeric polypeptide of claim 1, 2, or 3; and

introducing said vector into target cells *in vivo*, under conditions sufficient to induce said target cells to express said polypeptide.

37. A method for treating a disease in an organism comprising:

providing a delivery vector comprising genetic material which encodes the chimeric polypeptide of claim 1, 2, or 3;

introducing said vector into target cells *ex vivo*; and

introducing said target cells containing the introduced vector into the organism under conditions sufficient to induce said target cells to express said polypeptide.

38. The method of claim 36 or 37, wherein the target cells are selected from the group consisting of blood cells, skeletal muscle cells, stem cells, skin cells, liver cells, secretory gland cells, hematopoietic cells, and marrow cells.

39. A chimeric polypeptide having the structure $(A\text{-}B\text{-}C)_n$, wherein:

A, independently for each occurrence, represents a fragment of serum albumin (SA);

B, independently for each occurrence, represents a biologically active heterologous peptide sequence;

C, independently for each occurrence, represents a second biologically active heterologous peptide sequence or a fragment of serum albumin (SA); and

n is an integer greater than 0.

40. The polypeptide of claim 39, wherein B and C comprise identical sequences.

41. The polypeptide of claim 39, wherein B and C comprise fragments of a single protein.

42. The polypeptide of claim 39, wherein B and C comprise fragments two different proteins.

43. A chimeric polypeptide comprising serum albumin protein (SA) having at least two biologically active heterologous peptide sequences inserted therein.

44. The polypeptide of claim 43, wherein the heterologous peptide sequences are identical.

45. The polypeptide of claim 43, wherein the heterologous peptide sequences comprise distinct sequences of a protein.

46. The polypeptide of claim 44, wherein the heterologous peptide sequences comprise sequences from at least two different proteins.

47. A method for modulating one or more of cell proliferation, cell differentiation, and cell death in an organism, comprising administering as a pharmaceutical preparation to the organism the chimeric polypeptide of claim 1, 2, or 3.

48. A method for modulating one or more of cell proliferation, cell differentiation, and cell death in an organism, comprising:

providing a delivery vector comprising genetic material which encodes the chimeric polypeptide of claim 1, 2, or 3; and

introducing said vector into target cells *in vivo*, under conditions sufficient to induce said target cells to express said polypeptide.

49. The chimeric polypeptide of claim 1, wherein the biologically active heterologous peptide sequence is inserted into a cysteine loop of the serum albumen protein.

50. The chimeric polypeptide of claim 49, wherein the cysteine loop is selected from Cys^{53}-Cys^{62}, Cys^{75}-Cys^{91}, Cys^{90}-Cys^{101}, Cys^{245}-Cys^{253}, Cys^{266}-Cys^{279}, Cys^{360}-Cys^{369}, Cys^{461}-Cys^{477}, Cys^{476}-Cys^{487}, and Cys^{558}-Cys^{567}.

51. The chimeric polypeptide of claim 23, wherein the biologically active heterologous peptide sequence replaces a portion of a cysteine loop of the serum albumen protein.

52. The chimeric polypeptide of claim 51, wherein the cysteine loop is selected from Cys^{53}-Cys^{62}, Cys^{75}-Cys^{91}, Cys^{90}-Cys^{101}, Cys^{245}-Cys^{253}, Cys^{266}-Cys^{279}, Cys^{360}-Cys^{369}, Cys^{461}-Cys^{477}, Cys^{476}-Cys^{487}, and Cys^{558}-Cys^{567}.

53. The chimeric polypeptide of claim 50 or 52, wherein the cysteine loop is selected from Cys^{53}-Cys^{62}, Cys^{75}-Cys^{91}, Cys^{90}-Cys^{101}, Cys^{245}-Cys^{253}, Cys^{266}-Cys^{279}, Cys^{360}-Cys^{369}, Cys^{461}-Cys^{477}, Cys^{476}-Cys^{487}, and Cys^{558}-Cys^{567}.